NASA Risk Management Conference 2005
(RMC VI)
Risk Management: Enabling the New Age of Exploration

Monday, December 5

Registration – North Registration Desk   5:00-8:00 p.m.

Tuesday December 6 (Day 1)

Registration – North Registration Desk   7:00-8:00

Exhibits & Demonstrations
Coronado Ballroom K & Durango 1

Welcome & Announcements   8:00-8:15
Coronado Ballroom L

> *John E. Tinsley*
> *Director, Mission Support Division*
> *Office of Safety and Mission Assurance, HQ*
>
> Conference Orientation & Introduction
> *Robert Navarro*
> *Sr. Risk Manager, Risk Management Corporation*

Keynote & Special Topics

> **The New Age of Exploration at NASA**   8:15-9:15
> *Rex Geveden, NASA Associate Administrator*
>
> **Safety, Risk in the New Vision**   9:15-10:15
> *Bryan O'Connor*
> *Chief Safety & Mission Assurance Officer, OSMA, HQ*

BREAK - View Exhibits & Demonstrations   10:15-10:45
Coronado Ballroom K and Durango 1

Special Topics (Continued)

> <u>Moderator</u>: *Robert Navarro*
> *Risk Management Corporation*
>
> **Risk-Informed Operational Decision Management**   10:45-11:45
> *George Apostolakis, PhD*
> *Professor of Nuclear Engineering & Engineering Systems, MIT*

LUNCH - Coronado Ballroom K   11:45-1:00
    Special Speaker

<u>Topic Area 1</u>: **NASA Transformation and Implementation of an Independent Engineering Authority**

<u>Moderator</u>: *Frank Culbertson, Jr.*

Astronaut (Retired), SAIC, JSC

NASA Transformation and Implementation of an Independent Engineering Authority   1:00-2:00
Walter Hussey
Director, Independent Technical Authority, HQ

Warrant Holder Implementation   2:00-3:00
Mike Conley (Invited)
ISS System Warrant Holder & ISS Chief Engineer, JSC

BREAK - View Exhibits & Demonstrations   3:00-3:30
Coronado Ballroom K and Durango 1

Expert Panel: 3:30-5:30
NASA Transformation - How is it Working?

Chair: *Jeevan Perera*
Risk Manager, Crew Exploration Vehicle, JSC

Panel Members*:*
- **Walter Hussey**
  NESC/ iTA, HQ
- **Steve Poulos**
  Orbiter Vehicle Manager, JSC
- **Mike Conley** *(Invited)*
  ISS System Warrant Holder
  & ISS Chief Engineer, JSC
- **Wayne Frazier**
  OSMA/NESC Liaison, HQ
- **Mark Saunders**
  Director, IPAO, HQ
- **Joe Hamaker**
  PA&E, HQ
- **John Tinsley**
  OSMA, HQ

Wednesday December 7 (Day 2)

Welcome & Highlights   8:00-8:15
John E. Tinsley

Keynote   8:15-9:15
   Risk Management: An Astronaut's Perspective
   Eileen Collins, Astronaut (Invited)
   Commander STS-114, Return-to-Flight Mission

<u>**Topic Area 2**</u>: **STS/ISS Accomplishments and Challenges for Implementing NASA's Changing and Emerging Strategies**

<u>Moderator</u>: *Michael Lutomski*
ISS Risk Manager, JSC

A. Implementation of the Agency Strategies to Support Exploration   9:15-10:15
William H. Gerstenmaier
Associate Administrator for Space Operations, HQ

BREAK & View Exhibits & Demonstrations   10:15-10:45
Coronado Ballroom K and Durango 1

B. Space Transportation System – Managing the Risks of RTF   10:15-10:45
Wayne Hale
STS Deputy Program Manager, JSC

LUNCH - Coronado Ballroom K   11**:**45-1:00

Discovery Channel RTF Special
Bella Schwartz Productions
Howard Swartz, Executive Producer (Invited)

Topic Area 2 (Continued)

Human Systems Risk Management   1:00-2:00
Bonnie Dunbar
Astronaut (Retired)

C. Risk Analysis: Contributions to Mission Success

Implementation of Risk-Informed Decision Making at NASA   2:00-3:00
Michael Stamatelatos, PhD
OSMA, HQ

Role of System Safety in Risk-Informed Decision Making   3:00-3:30
Homayoon Dezfuli, PhD
OSMA, HQ

BREAK - View Exhibits & Demonstrations   3:30-3:45
Coronado Ballroom K and Durango 1

Concurrent Tutorials & Breakout Sessions

Tutorials:

Session A: Risk Management Communication & Anomaly Resolution   3:45-5:45
Tina Panontin, PhD
Chief Engineer, ARC

Session B: Part I - Continuous Risk Management (CRM)   3:45-5:45
Fundamentals
Charlie Cockrell & Bob Wingard
Risk Management Corporation

Session C: Active Risk Manager (ARM): NASA Applications   3:45-5:45
Karl Pringle & Lita Cuen
Strategic Thought LLP

Breakout Sessions:

Session D: Advances in International Risk Management   3:45-5:45

Lead: *Christian Preyssl, European Space Agency (ESA)*

Nobuo Takeuchi
Japan Aerospace Exploration Agency (JAXA)

Canadian Space Agency (CSA) – (Invited)

Risk Management at ESA – 2005
Christian Preyssl, PhD
Safety & Risk Management, ESTEC/ESA

Session E: Software - Panel   3:45-5:45
Lead: *Martha Wetherholt, HQ*

- **Kenneth Costello**
  Chief Engineer IV&V, GSFC
- **Tim Crumbley**
  Software Program Manager, MSFC
- **Jeff Payne**
  President, Cigital Inc.
- **Burt Sigal**, *JPL (Invited)*

Session F: Cost in Risk Management   3:45-5:45
Lead: *Joe Hamaker, HQ*

Earned Value Management (EVM)
Dave Graham
Program Analysis & Evaluation, HQ

Continuous Cost Risk Management (CCRM)
Joe Hamaker
Program Analysis & Evaluation, HQ

Thursday December 8 (Day 3)

Welcome & Remarks   8:00-8:15
John E. Tinsley

Keynote
    Crew Exploration Vehicle (CEV) Program Overview and Objectives   8:15-9:15

Topic Area 3: Exploration Missions - Continuing the Vision
for Integrating Risk Management

    A. Risk Management in the Planned ESMD Exploration Programs
    Moderator: *Anngienetta R. Johnson, DrSc*
    System Associate Administrator, Office of Education, HQ

    ESMD Risk Management Implementation   9:15-10:15

BREAK - View Exhibits & Demonstrations   10:15-10:45
Coronado Ballroom K and Durango 1

    Safety & Mission Assurance Lessons Learned   10:45-11:15
    John Tinsley
    Director, Mission Support Division, OSMA, HQ

**A Risk Manager's Perspective: Lessons Learned for
Future Exploration Systems**   11:15-12:00
John Turner, PhD
Space Shuttle Program Risk Manager, JSC

LUNCH - Coronado Ballroom K   12:00-1:00

<u>**Topic Area 3**</u> **(Continued)**

**B. Consideration of Risk and Risk Management
in Deep Space Programs and Projects**
<u>Moderator</u>: *James Rose, PhD*   1:00-3:00
Principal, Office of Safety & Mission Success, JPL

Mars Reconnaissance Orbiter (MRO)
Jim Graf
Program Manager, JPL
Phil Barella - (To be Invited)
Risk Manager, JPL

Deep Impact: Project Risk Management
Rick Grammier
Project Manager, JPL

Concluding Remarks & Acknowledgements
John Tinsely

Concurrent Tutorials & Breakout Sessions

> <u>**Tutorials:**</u>

>> <u>**Session A**</u>: **The Powers of Fault Tree Analysis**   3:15-4:45
>> *Bill Vesely, PhD*
>> *OSMA, HQ*

>> <u>**Session B**</u>: **Part II - Continuous Risk Management (CRM)
>> Applications & Case Study**   3:15-4:45
>> *Charlie Cockrell & Bob Wingard*
>> *Risk Management Corporation*

> <u>**Breakout Sessions**</u>:

>> <u>**Session C**</u>: **Risk Management Process Benchmarking**   3:15-4:45
>> **Lead:** *Dave Lengyel, HQ*

>> **ESMD – Benchmarking Risk Management**
>> *Harold Taylor*
>> *Ares Corporation, JSC*

>> **CRM Maturity Assessment**
>> *William Powell, MSFC*

>> <u>**Session D**</u>: **Risk Management and Lessons Learned**   3:15-4:45
>> **Lead:** *Warren Connley, GSFC*

>> **Flight Operations Risk Decision Making**
>> *Bob Wingard*

Risk Management Corporation

Benchmarking Risk Management & Risk Reporting
Len Sirota
OSMA, HQ

Reducing Mission Operations Risk Through
Anomaly Data Management and Knowledge Management
Warren Connley, Ed Rogers, Mike Rackley
Office of Mission Success, GSFC

Session E: Risk Management Metrics   3:15-4:45
Lead: *Jeevan Perera, JSC*

Supplier Risk Management Assessment Results
Honeywell Technology Solutions
Phillip Montag
Program Manager, Honeywell TSI

Update - Risk Management Process Metrics:
Measuring Effectiveness of Risk Management
Jeevan Perera, PhD/JD
Risk Manager, Crew Exploration Vehicle, JSC
Ray Williams, Software Engineering Institute
Carnegie Mellon University

Session F: Human Factors: Human Error and Risk Assessment   3:15-4:45
Lead: *Faith Chandler, HQ*

Harold Blackman
Ron Boring
Richard Cook (Invited)
Dave Dunkle (Invited)

Session G: Innovations & Updates from NASA   3:15-4:45
Safety & Mission Assurance
Lead*: Bill Wessel, GRC*

Lawrence Davis
SMA Director, DFRC

Roy Malone (invited)
Deputy SMA Director, MSFC

Bill Wessel
SMA Director GRC

Town Hall Meeting with the Administrator   4:45-6:00
Michael Griffin, NASA Administrator (To be Invited)

Risk Management Demonstrations – Continually During December 6-8

Active Risk Manager (ARM): NASA Applications
Karl Pringle & Lita Cuen Strategic Thought LLP

Continuous Risk Management (CRM)
Steve Botzum, Risk Management Corporation

Integrated Risk Management Application (IRMA)
Jeevan Perera, PhD/JD, JSC

Quantitative Risk Assessment System (QRAS)
Kamran Nouri, President, Item Software

Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (Saphire)
Ted Wood, Idaho National Engineering and Environmental Laboratory

Galileo: Software Tool for Dynamic Fault Tree Analysis
Leila Meshkat, PhD, JPL

<u>**Corporate Exhibits**</u> **– Continually During December 6-8**
Coronado Ballroom K